

**Appn No. 10/812,157  
Reply to Office Action of May 12, 2005**

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1.- 34 cancelled.

35. (Original) A drilling system comprising:  
a first tubular connector;  
a second tubular connector;  
a washpipe assembly comprising at least one dynamic seal and defining a fluid conduit having a first mating connector and a second mating connector; and  
a controllable torque driver arranged to mechanically engage the washpipe assembly such that fluid connections are made between the first mating connector and the first tubular connector, and the second mating connector and the second tubular connector.

36. (New) The drilling system of claim 35, wherein the controllable torque driver is selected from the group consisting of a torque wrench, a torque drive motor, a hydraulic cylinder, and a torqueing sleeve.

37. (New) The drilling system of claim 36, wherein the torque drive motor is selected from the group consisting of an air motor, a hydraulic motor, and an electric motor.

38. (New) The drilling system of claim 35, further comprising a positioning mechanism for moving the washpipe assembly between a washpipe assembly connecting position and a washpipe assembly replacement position.



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39. (New) The drilling system of claim 38, wherein the positioning mechanism comprises a positioning yoke and a pivot link.

40. (New) The drilling system of claim 39, wherein the pivot link comprises a jack nut and a jack screw that combine to allow the positioning yoke to move vertically along a path defined by the length of the jack screw.

41. (New) The drilling system of claim 35, wherein the mating connectors are each a geared nut designed to interconnect with the first and second tubular connectors, and further comprising a drive shaft having a pinion gear for engaging the first and second geared nuts, and wherein the torque driver is attached to the drive shaft, such that fluid connections are made between the first mating connector geared nut and the first tubular connector, and the second mating connector geared nut and the second tubular connector by manipulation of the drive shaft.

42. (New) The drilling system of claim 41, wherein the drive shaft pinion gear is movable along the drive shaft, such that the pinion may be brought into and out of engagement with each of the first mating connector geared nut and the second mating connector geared nut.

43. (New) The drilling system of claim 42, wherein a hydraulic cylinder moves the drive shaft pinion gear along the drive shaft, such that the pinion may be brought into and out of engagement with each of the first mating connector geared nut and the second mating connector geared nut.

44. (New) The drilling system of claim 42, wherein a pneumatic means moves the drive shaft pinion gear along the drive shaft, such that the pinion may be brought into and out of engagement with each of the first mating connector geared nut and the second mating connector geared nut.

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45. (New) The drilling system of claim 35, wherein the first tubular connector is a rotatable main shaft connected to a drill string, and the second tubular connector is a non-rotatable gooseneck assembly connected to a drilling mud supply.

46. (New) The drilling system of claim 35, wherein the controllable and reproducible torque driver is designed to transmit a torque from the first tubular connector to the washpipe assembly.

47. (New) The drilling system of claim 46, wherein the controllable and reproducible torque driver comprises a torqueing sleeve for engaging the first tubular connector and a wrench connected to the torqueing sleeve for engaging the washpipe assembly.

48. (New) The drilling system of claim 46, wherein the controllable and reproducible torque driver comprises a torqueing sleeve and a wrench that are movable from a first position to a second position, wherein in the first position the torqueing sleeve engages the first tubular connector and the wrench engages the first mating connector to transfer a torque from the first tubular connector to the first mating connector to connect the washpipe assembly to the first tubular connector, and wherein in the second position the torqueing sleeve engages the washpipe assembly and the wrench engages the second mating connector to transfer a torque from the first tubular connector to the second mating connector to connect the washpipe assembly to the second tubular connector.

49. (New) A method of connecting a washpipe assembly in a drill system comprising:

providing a first rotatable tubular connector;

providing a second non-rotatable tubular connector;

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providing a washpipe assembly comprising at least one dynamic seal and defining a fluid conduit having at one end a first mating connector and a second mating connector; and

applying a controllable torque to mechanically engage the washpipe assembly such that fluid connections are made between the first mating connector and the first tubular connector, and the second mating connector and the second tubular connector.

50. (New) The method of claim 49, further comprising providing a controllable torque driver for applying the controllable torque to the first and second connectors, wherein the controllable torque driver is selected from the group consisting of a torque wrench, a torque drive motor, a hydraulic cylinder, and a torqueing sleeve.

51. (New) The method of claim 49, further comprising providing a controllable torque drive motor for applying the controllable torque to the first and second connectors, wherein the controllable torque drive motor is selected from the group consisting of an air torque drive motor, a hydraulic torque drive motor, and an electric torque drive motor.

52. (New) The method of claim 49, further comprising providing a positioning mechanism for moving the washpipe assembly between a washpipe assembly connecting position and a washpipe assembly replacement position.

53. (New) The method of claim 52, wherein the positioning mechanism comprises a positioning yoke and a pivot link.

54. (New) The method of claim 52, wherein the pivot link comprises a jack nut and a jack screw that combine to allow the positioning yoke to move vertically along a path defined by the length of the jack screw.

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55. (New) The method of claim 49, wherein the washpipe assembly comprises at least one dynamic seal and defines a fluid conduit, and wherein the mating connectors are each a geared nut designed to interconnect with the first and second tubular connectors, and further comprising:

providing a drive shaft having a pinion gear for engaging the first mating connector geared nut and second mating connector geared nut.

56. (New) The method of claim 55, further comprising moving the drive shaft pinion gear along the drive shaft, such that the pinion may be brought into and out of engagement with each of the first mating connector geared nut and the second mating connector geared nut.

57. (New) The method of claim 56, further comprising providing a hydraulic cylinder to move the drive shaft pinion gear along the drive shaft, such that the pinion may be brought into and out of engagement with each of the first geared nut and the second geared nut.

58. (New) The method of claim 56, further comprising providing a pneumatic means to move the drive shaft pinion gear along the drive shaft, such that the pinion may be brought into and out of engagement with each of the first geared nut and the second geared nut.

59. (New) The method of claim 49, wherein the first tubular connector is rotatable and is a main shaft connected to a drill string, and the second tubular connector is non-rotatable and is a gooseneck assembly connected to a drilling mud supply.

60. (New) The method of claim 49, further comprising transmitting a torque from the first rotatable tubular connector to the washpipe assembly, such that fluid

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connections are made between the first mating connector and the first tubular connector, and the second mating connector and the second tubular connector.

61. The method of claim 60, wherein transmitting a torque from the first tubular connector to the washpipe assembly comprises transmitting a torque from the first tubular connector to the first mating connector, such that a fluid connect is made between the first mating connector and the first tubular connector; and transmitting a torque from the first tubular connector to the second mating connector, such that a fluid connect is made between the second mating connector and the second tubular connector.

62. The method of claim 60, wherein transmitting a torque from the first tubular connector to the first mating connector comprises connecting a torqueing sleeve to the first tubular connector and connecting a wrench that is attached to the torqueing sleeve to the first mating connector; and wherein transmitting a torque from the first tubular connector to the second mating connector comprises connecting the torque sleeve to the washpipe assembly, when the washpipe assembly is connected to the first tubular connector and connecting the wrench to the second mating connector.

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